AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

1. (Previously Presented) A process for coating a metal substrate with a layer of ceramic suitable as a support for a Fischer-Tropsch catalyst, the method comprising forming a slurry containing dispersible alumina and particulate alumina, the particulate alumina having a particle size greater than 1 μm, and the proportion of dispersible alumina being between 5% and 35% by weight of the total alumina, adjusting the pH of the slurry so the slurry is of high viscosity, and spraying droplets of the slurry onto a hot metal substrate, the substrate being at a temperature between 500° and 750° C.

2. (Currently Amended) A process as claimed in claim 1 wherein the droplets comprise at least 15% solid material by weight of the droplets.

3. (Previously Presented) A process as claimed in claim 1 wherein the metal substrate comprises an aluminum-bearing ferritic steel.

4. (Previously Presented) A process as claimed in claim 1 wherein the ceramic layer also incorporates a stabiliser.

5. (Previously Presented) A process as claimed in claim 1 wherein the coated substrate is subsequently calcined.

6. (Currently Amended) A process as claimed in claim 1 wherein the layer is built up by successively spraying droplets of slurries of ~~different~~ compositions containing different proportions of dispersible particulate alumina, such that the portion of alumina that is dispersable differs.

7. (Original) A process as claimed in claim 6 wherein the compositions are such that the layer increases in porosity towards its exposed surface.

8. (Previously Presented) A process of making a catalyst, comprising coating a metal substrate with a layer of porous ceramic by a process as claimed in claim 1, and incorporating catalyst material into the ceramic layer.

9. (Original) A process as claimed in claim 8 wherein the catalyst material is a catalytic metal, and the catalytic metal is incorporated by contacting the ceramic layer with a solution of a salt of the metal in a solvent comprising an organic liquid whose surface tension and viscosity are lower than those of water.

10. (Previously Presented) A process as claimed in claim 8 wherein the ceramic layer incorporates a catalytic metal, and is then coated with wax to protect it from the atmosphere.

11. (Previously Presented) A catalyst made by a process as claimed in claim 8.

12. (Previously Presented) A process as claimed in claim 8 wherein the catalyst material is a catalytic metal, and the catalytic metal is incorporated by contacting the ceramic layer with a solution of a salt of the metal, drying and then calcining the ceramic layer to convert the metal into an oxide, and then repeating the contacting, drying and calcining steps to increase the quantity of the catalytic metal present in the ceramic layer.

13. (New) A catalyst as claimed in claim 11 comprising a metal substrate coated with a porous layer of ceramic with both mesopores and macropores through the thickness of the porous layer and whose porosity increases towards its exposed surface, the catalyst incorporating an active catalyst metal within the ceramic layer.

14. (New) A process as claimed in claim 1 wherein the pH of the slurry is adjusted so that the slurry has a viscosity of 13,000 to 14,000 centipoise.

15. (New) A process as claimed in claim 1 wherein adjusting the pH of the slurry comprises adjusting the pH of the slurry to a pH between 8.5 and 12.5.

16. (New) A process for coating a metal substrate with a porous ceramic layer, the process comprising

forming a first slurry containing dispersible alumina and particulate alumina, the particulate alumina having a particle size of 1 μm or greater, and the proportion of dispersible alumina being 5% to 35% by weight of the total alumina;

adjusting the pH of the first slurry to a pH of 8.5 to 12.5 so that the first slurry is of high viscosity;

spraying droplets of the first slurry onto a metal substrate, the metal substrate being at a temperature of 500° to 750° C; and

spraying droplets of a second slurry onto the metal substrate, wherein the second slurry comprises dispersible alumina and particulate alumina, the particulate alumina having a particle size of 1 μm or greater, and wherein the second slurry has a different proportion of dispersible alumina and particulate alumina than the first slurry,

wherein the porous ceramic layer increases in porosity towards its exposed surface, and

wherein the porous ceramic layer is suitable as a support for a Fischer-Tropsch catalyst.

17. (New) A process as claimed in claim 16 wherein the pH of the first slurry is adjusted so that the slurry has a viscosity of 13,000 to 14,000 centipoise.

18. (New) A process as claimed in claim 16 wherein adjusting the pH of the first slurry comprises adjusting the pH of the first slurry to a pH of 8.5 to 9.5.

19. (New) A process as claimed in claim 16 wherein the porous ceramic layer contains mesopores and macropores through the thickness of the porous ceramic layer.

20. (New) A process of making a catalyst, comprising:

coating a metal substrate with a ceramic layer by a process as claimed in claim 1; and

incorporating a catalytic metal into the ceramic layer, the incorporating step comprising contacting the ceramic layer with a liquid that comprises a salt of cobalt in a solvent comprising an organic liquid whose surface tension and viscosity are lower than those of water.